

ABSTRACT OF THE DISCLOSURE

A novel seed coat specific peroxidase genomic sequence is characterized and presented. The seed coat peroxidase is translated as a 352 amino acid precursor protein of 38 kDa comprising a 26 amino acid signal sequence which when cleaved results in a 35 kDa protein. Probes derived from the cDNA, or genomic DNA can be used to detect polymorphisms that distinguish EpEp and epep genotypes. The regulatory region of the seed coat specific gene may be used to control expression of genes of interest such as genes encoding herbicide resistance, biological control of insects or pathogens, viral coat proteins to protect against viral infections, proteins of commercial interest, or proteins that alter the nutritive value, taste, or processing of seeds.